

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT(s):	Juha Pihlaja	CONF. NO.:	7015
SERIAL NO.:	10/089,426	ART UNIT:	2616
FILING DATE:	03/29/2002	EXAMINER:	Haliyur, Venkatesh N.
TITLE:	A RADIO LINK SYSTEM		
ATTORNEY			
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United States Patent and Trademark Office  
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**APPELLANT'S BRIEF**

This is an appeal from the final rejection of the claims in the above-identified application.  
A Notice of Appeal was electronically filed on 26 November 2007.

**I. REAL PARTY IN INTEREST**

The real party in interest in this Appeal is Nokia Corporation.

## **II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences regarding this application.

## **III. STATUS OF CLAIMS**

Claims 1-17 are pending in the application.

Claims 1-17 have been finally rejected.

The claims on appeal are 1-17.

## **IV. STATUS OF AMENDMENTS**

There were no amendments made after the Final Office Action dated August 23, 2007.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

Claim 1 recites a system for providing wireless point-to-multipoint connections (P. 2, L. 11-15) comprising an access point (AP) using full-duplex mode and terminals using half-duplex mode (P. 9, L. 17-18), wherein each of a plurality of the terminals (AT) has an equipment identifier, each of the plurality of the terminals is arranged to classify itself as belonging to a first group of terminals or a second group of terminals based on the equipment identifier according to a predefined rule (P. 5, L. 24-31; P. 7, L. 10-12; P. 9, L. 20-23), and the access point is arranged to send a first broadcast message to the first group of terminals and a second broadcast message to the second group of terminals (P. 2, L. 32 – P. 3, L. 12; P. 7, L. 11-16; P. 9, L. 24-25), and the access point is arranged to

schedule the transmission period (P. 3, L. 14-16) of at least one terminal of the second group to overlap at least partly with the transmission period of the first broadcast message (P. 7, L. 26-36; P. 9, L. 26-28; Figs. 2-3).

Claim 3 recites an access point of a point-to-multipoint wireless link system (P. 2, L. 11-15; P. 10, L. 6-7), wherein the access point is arranged to send a first broadcast message in a frame to a first group of terminals and a second broadcast message in the frame to a second group of terminals, and the access point is arranged to schedule the transmission period of at least one terminal of the second group to overlap at least partly with the transmission period of the first broadcast message (P. 10, L. 7-12; Figs. 2-3).

Claim 4 recites a terminal of a point-to-multipoint wireless link system (P. 2, L. 11-15; P. 10, L. 22-23), which terminal has an equipment identifier (P. 10, L. 23-24), wherein the terminal is arranged to classify itself as belonging to a first group of terminals or a second group of terminals based on the equipment identifier according to a predefined rule (P. 10, L. 24-26), the terminal is arranged to receive a first broadcast message if it belongs to the first group and a second broadcast message if it belongs to the second group (P. 2, L. 32 – P. 3, L. 12; P. 7, L. 11-16; P. 9, L. 24-25) and a transmission period of the terminal is arranged to overlap at least partly with a transmission period of the first broadcast message if it belongs to the second group (P. 7, L. 26-36; P. 9, L. 26-28; Figs. 2-3).

Claim 6 recites a method for providing wireless point-to-multipoint connections between an access point and a plurality of terminals (P. 10, L. 34-36), wherein the terminals are grouped into a first group and a second group (P. 10, L. 36-37), during a transmission frame, the access point sends a first broadcast message to terminals in the first group and a second broadcast message to terminals in the second group (P. 10, L. 37 – P. 11, L. 1), and at least one of the terminals of the second group is scheduled to transmit during at least a part of the transmission period of the first broadcast message (P. 11, L. 1-5).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The ground for rejection to be reviewed on appeal is whether claims 1-17 are unpatentable under 35 U.S.C. 103(a) over Delprat et al. (US 5,617,412; hereinafter "Delprat") in view of Lenzo (US 6,556,830).

## **VII. ARGUMENT**

Claims 1-17 are patentable under 35 U.S.C. 103(a) over Delprat in view of Lenzo.

### **1. Claims 1, 3, 4 and 6**

Claim 1 recites that the access point is arranged to send a first broadcast message to the first group of terminals and a second broadcast message to the second group of terminals. The combination of Delprat and Lenzo does not disclose or suggest these features.

The Examiner refers to column 3, lines 10-26 of Delprat as disclosing "broadcast messages" as recited by Applicant. However, all that Delprat discloses are multiframe. The multiframe in Delprat is a group of frames that has been defined in time. In particular the signals exchanged by the stations in Delprat are organized in frames of predetermined fixed duration grouped into multiframe comprising a predetermined number of frames including at least one control frame (Abstract). The control frames are used in Delprat by the sending mobile for listening to down link signaling associated with a call, detecting and/or measuring the signals broadcast in adjacent cells, sending upward signaling associated with the call and receiving information directly from another mobile station (Col. 6, L. 39-67). While the multiframe in Delprat can include control frames, there is nothing in Delprat that discloses or suggests that the multiframe includes broadcast messages.

While the word "broadcast" is used in Delprat it is not used in the same context recited in Applicant's claims. For example, column 6, lines 59-61 in Delprat recites that the mobile station detects and/or measures the signals broadcast in adjacent cells. These broadcast signals from adjacent cells in Delprat are nothing more than signals that enable the mobile station to find candidates for cellular handover. The broadcast signal in Delprat comes from another "cell" and is not used for broadcasting from the same access point to two different groups of terminals. In Delprat the other "cell" is another base station (i.e. another "access point"). This is not what is claimed by Applicant. Again, Applicant's claim 1 recites that the "access point" sends a first broadcast message to the first group of terminals and a second broadcast message to the second group of terminals.

Moreover, if the control frame and multiframe of Delprat was applied to Applicant's claim 1, the system recited in claim 1 would not function as the mobile terminals would send information at times that are specifically set aside to listen for broadcast messages.

Thus, Delprat cannot disclose that the access point is arranged to send a first broadcast message to the first group of terminals and a second broadcast message to the second group of terminals as recited in Applicant's claim 1. Combining Delprat with Lenzo fails to remedy the above-noted deficiency.

It is noted that there is absolutely no disclosure in Lenzo of a "broadcast message". Thus, Lenzo cannot disclose or suggest that the access point is arranged to send a first broadcast message to the first group of terminals and a second broadcast message to the second group of terminals as recited in Applicant's claim 1. Therefore, claim 1 is patentable at least for the reason that the combination of Delprat and Lenzo does not disclose or suggest that the access point is arranged to send a first broadcast message to the first group of terminals and a second broadcast message to the second group of terminals as recited in Applicant's claim 1.

With respect to "a single access point entity" as recited in Applicant's claim 1, the Examiner refers to column 6, lines 6-17 of Lenzo as disclosing this feature. However, column 6, lines 6-17 merely discloses a conventional frequency-division duplex base station B30 in which the receive and transmit operations are executed simultaneously in time at different frequencies. There is nothing in column 6, lines 6-17 disclosing that the base station B30 "is arranged to send a first broadcast message to the first group of terminals and a second broadcast message to the second group of terminals" and that base station "is arranged to schedule the transmission period of at least one terminal of the second group to overlap at least partly with the transmission period of the first broadcast message".

Lenzo states, in Col. 3, lines 28-67, that a "first subset" of base stations uses a "first partition" of a TDMA frame for transmission of "information signals" to mobile stations and the "second partition" of the TDMA frame for reception of "information signals" from mobile stations. A "second subset" of base stations uses the "first partition" of each TDMA frame "exclusively" for reception of information signals from mobile station and uses the second partition of each TDMA frame for transmission of information signals to mobile stations. This is not what is recited by Applicant in the claims.

Claim 1 recites using an "access point" while Lenzo discloses the use of a base station "cluster" that has at least a "first subset of base stations" and a "second subset of base stations." (Col. 3, lines 52-64). Thus, Lenzo clearly does not use "an access point" as claimed by Applicant, but rather, at least two. One cannot equate a "first subset of base stations" and a "second subset of base stations" in a base station "cluster" with an "access point" as described and claimed by Applicant. The Examiner is referred to FIG. 5 of Lenzo, which shows the "timing relationship" between "base stations." The reference clocks are offset for these groups of "base stations", B40a and B40b. This is clearly not the same as the single access point entity, described and claimed by Applicant, that is able to work in duplex mode, and transmit and receive simultaneously on different frequencies. Thus, there is at least this difference between what is claimed by Applicant and the disclosure of Lenzo.

Therefore, claim 1 is patentable at least because Delprat and Lenzo, individually or in combination, do not disclose or suggest that the access point is arranged to send a first broadcast message to the first group of terminals and a second broadcast message to the second group of terminals as recited in claim 1.

Furthermore, claim 1 recites that the access point is arranged to schedule the transmission period of at least one terminal of the second group to overlap at least partly with the transmission period of the first broadcast message. The combination of Delprat and Lenzo does not disclose or suggest these features.

The Examiner acknowledges that Delprat does not disclose that the "access point" is arranged to schedule the transmission period of at least one "terminal of said second group" to "overlap" with the transmission period of the first broadcast message" as recited in Applicant's claim 1. Combining Lenzo with Delprat does not overcome the above noted deficiencies.

The Examiner states that Lenzo discloses that a base station is arranged to schedule the "transmission period of one group of terminals" to overlap with the "second group of terminals." This however, is not what is claimed by Applicant. Applicant's claim recites that the "access point" is arranged to schedule the transmission period of at least one "terminal of the second group" to overlap with the transmission period of the "first broadcast message." Thus, Applicant is not claiming that the transmission period of at least one terminal of the second group overlaps with the transmission period of at least one terminal of the first group as stated by the Examiner. It is the transmission period of a terminal of the second group that overlaps with the transmission period of the first broadcast message. Thus, this feature claimed by Applicant cannot be disclosed or suggested by the combination of Delprat and Lenzo. Therefore, claim 1 is patentable for this additional reason.

In addition, Applicant respectfully submits that there is no motivation to combine references as suggested by the Examiner. Delprat discloses a timing feature, where

downlink control data will be sent during periods where NO terminal is sending data in the uplink (see column 8, lines 7-10). The examples of Figs. 4 to 7 merely disclose that two data units are sent in order to allow the receiver to get the mode change done in the terminals or base station. Thus there is no motivation to combine Delprat with Lenzo, since Lenzo specifically aims in simultaneously sending and receiving (from a base station cluster). This would be considered causing "serious disturbance of traffic" in Delprat. In particular, column 2, lines 38-42, and column 3, lines 3-11, of Delprat specifically indicate, that the aim of Delprat is to avoid such serious disturbances. Where the references have conflicting teachings, it is improper to combine them, see Karsten Manufacturing Corp. v. Cleveland Golf Co. 58 USPQ2d 1286, 1293. Here, if the references are combined, the channel capacity is made worse due to the resulting disturbances. This is against the object of what is claimed in Applicant's claim 1.

The Examiner states that Delprat discloses in Col. 6, lines 4-18 that wireless terminals are arranged in groups to receive simultaneous broadcast messages, transmitted from an access point to the groups. There is no disclosure here related to receiving simultaneous broadcast messages transmitted from an access point to a group. All this section of Delprat discloses is that the mobile stations are divided into groups. Common frequencies exist for the up link direction and the down link direction. Only one mobile station of a group can send at a time. A mobile station cannot send and receive simultaneously. There is nothing here or elsewhere that discloses that terminals are arranged as groups to receive simultaneous broadcast messages transmitted from an access point as claimed by Applicant.

The Examiner states that Delprat, in Col. 6, lines 4-18, discloses terminals arranged as groups that receives simultaneous (overlapping) broadcast messages transmitted from an access point. However, all that Delprat discloses here is that only one mobile station of a group can send at a time. Other stations are in receive mode. Base station can simultaneously send to some mobile stations and receive from others. There is no disclosure here of a broadcast message as claimed by Applicant.



The Examiner also states that Lenzo, in Col. 3, lines 28-67 discloses broadcasting control messages simultaneously from an access point. There is no such disclosure in Lenzo. What Lenzo does disclose is base station clusters where each base station can communicate with mobile stations. Each base station in the first cluster can use the first partition of each TDMA frame for transmission of information signals to mobile stations. Each base station in the second base station cluster uses the first partition of each TDMA for reception of information signals and the second partition for transmission of information signals. (Col. 3, lines 41-52). What this does not say, however, is broadcasting control messages simultaneously to radio terminals from an access point as stated by the Examiner.

Thus, neither Delprat nor Lenzo disclose transmitting broadcast messages from an access point as claimed by Applicant.

The Examiner also states that Delprat discloses simultaneously transmitting broadcast messages to wireless terminals from a "single" access point, referring to Col. 5, lines 55-67. Rather, all that is disclosed here is one cell of a network, where the mobile stations set up calls via a base station SB covering the cell. There is absolutely no disclosure here related to the simultaneous transmission of broadcast messages to wireless terminals as alleged by the Examiner.

The Examiner refers to Lenzo, Col. 3, lines 28/67 in support of this position as well. However, as noted above, this section of Lenzo discloses the use of base station clusters, and not what is claimed by Applicant.

Thus, the combination of Delprat and Lenzo does not and cannot disclose each feature recited by Applicant in claim 1. Therefore, claim 1 is patentable over the combination of Delprat and Lenzo for these additional reasons.

Claims 3, 4 and 6 are patentable over the combination of Delprat and Lenzo for reasons substantially similar to those described above with respect to claim 1. Claims 2, 5, and 7-17 are patentable at least by reason of their respective dependencies.

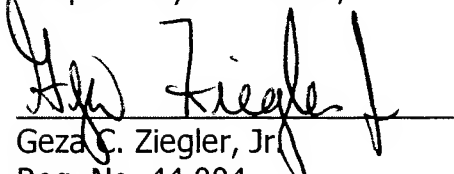
2. Claims 8-11

Claims 8-11 are patentable at least by reason of their respective dependencies.

Further, claims 8-11 recite that the broadcast message comprises of at least one of control information, or information about an access time slot, and said control information is composed of the identifier of the access point, identifier of the network operator, or identifier of the transmission sector. Delprat discloses in column 3, lines 3-4, what is transmitted in the control frame (i.e. special data (including signaling) or implementing a listening function), which is not any of the above claimed features. Similarly, Lenzo fails to disclose these features as there is no disclosure of a broadcast message in Lenzo. Thus, even if the references are combined, the result is not the what is claimed in claims 8-11. Therefore claim 8-11 are patentable over the combination of Delprat and Lenzo for this additional reason.

A check in the amount of \$500 is enclosed herewith for the appeal brief fee. The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

  
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## **VIII. APPENDIX OF CLAIMS**

The texts of the claims involved in the appeal are:

1. A system for providing wireless point-to-multipoint connections comprising an access point using full-duplex mode and terminals using half-duplex mode, wherein:

each of a plurality of the terminals has an equipment identifier,

each of said plurality of the terminals is arranged to classify itself as belonging to a first group of terminals or a second group of terminals based on said equipment identifier according to a predefined rule; and

the access point is arranged to send a first broadcast message to said first group of terminals and a second broadcast message to said second group of terminals, and

the access point is arranged to schedule the transmission period of at least one terminal of said second group to overlap at least partly with the transmission period of said first broadcast message.

2. A system according to claim 1, wherein the access point is arranged to schedule the transmission period of at least one terminal of said first group to overlap at least partly with the transmission period of said second broadcast message.

3. Access point of a point-to-multipoint wireless link system, wherein:

the access point is arranged to send a first broadcast message in a frame to a first group of terminals and a second broadcast message in said frame to a second group of terminals, and

the access point is arranged to schedule the transmission period of at least one terminal of said second group to overlap at least partly with the transmission period of said first broadcast message.

4. Terminal of a point-to-multipoint wireless link system, which terminal has an equipment identifier, wherein:

the terminal is arranged to classify itself as belonging to a first group of terminals or a second group of terminals based on the equipment identifier according to a predefined rule;

the terminal is arranged to receive a first broadcast message if it belongs to said first group and a second broadcast message if it belongs to said second group; and

a transmission period of the terminal is arranged to overlap at least partly with a transmission period of said first broadcast message if it belongs to said second group.

5. The terminal according to claim 4, wherein the terminal is arranged to perform the classification based on the value of the least significant bit of the identifier.

6. A method for providing wireless point-to-multipoint connections between an access point and a plurality of terminals, wherein:

the terminals are grouped into a first group and a second group, during a transmission frame,

the access point sends a first broadcast message to terminals in the first group and a second broadcast message to terminals in the second group, and

at least one of the terminals of the second group is scheduled to transmit during at least a part of the transmission period of said first broadcast message.

7. The method of claim 6, wherein at least one of the terminals of the first group is scheduled to transmit during at least a part of the transmission period of said second broadcast message.
8. The system of claim 1, wherein said broadcast message comprises of at least one of control information, or information about an access time slot, and said control information is composed of the identifier of the access point, identifier of the network operator, or identifier of the transmission sector.
9. The access point of claim 3, wherein said broadcast message comprises of at least one of control information, or information about an access time slot, and said control information is composed of the identifier of the access point, identifier of the network operator, or identifier of the transmission sector.
10. The terminal of claim 4, wherein said broadcast message comprises of at least one of control information, or information about an access time slot, and said control information is composed of the identifier of the access point, identifier of the network operator, or identifier of the transmission sector.
11. The method of claim 6, wherein said broadcast message comprises of at least one of control information, or information about an access time slot, and said control information is composed of the identifier of the access point, identifier of the network operator, or identifier of the transmission sector.
12. The system of claim 1, comprising only a single access point.
13. The method of claim 6, comprising only a single access point.
14. The system of claim 1, wherein at least one of said broadcast messages comprises control information.
15. The access point of claim 3, wherein at least one of said broadcast messages comprises control information.

16. The terminal of claim 4, wherein at least one of said broadcast messages comprises control information.

17. The method of claim 6, wherein at least one of said broadcast messages comprises control information.

## **IX. EVIDENCE APPENDIX**

Not Applicable.



**X. RELATED PROCEEDINGS APPENDIX**

Not Applicable.